Supplemental Report for Community Preservation Committee

NRC Request 1: Comprehensive Pond Management Plan ($100,000)

Preservation of water resources in Wellesley is of paramount importance for aesthetic and public health purposes, recreation, and storm water management. In addition to Morses Pond, which currently has an active restoration plan, the Town's other eight pond ecosystems are fragile and must be monitored and protected from invasive species colonization, sedimentation and eutrophication. In FY16, the NRC is requesting $100,000 to conduct the Comprehensive Pond Management planning process to assess and prioritize the preservation of the Town's ponds (Abbott Pond, Duck Pond, Longfellow Pond, Reeds Pond, Rockridge Pond, Farms Station Pond, and Bezanson Pond). This capital request has been in the NRC Capital Plan for the past five years. Note that the State Street Pond (known as the Skating Pond) is being dredged this winter or spring as part of the Fuller Brook Preservation Project. This funding would allow the NRC to assess and prioritize immediate concerns at the Town's ponds, and develop a long-term preservation and maintenance plan. While smaller than Morses, these other ponds offer countless recreational and environmental benefits, and would be lost without proper preservation. The Pond Preservation Process would involve three steps: Feasibility Study, Final Design and Permitting, and Implementation. This CPC request is for that initial feasibility study. **We know that conditions are worsening at the ponds, and prices for restoration are only rising. By planning ahead, the Town can prioritize and forecast these expenses.**

Information from Dr. Ken Wagner, Pond Manager

The NRC contacted Dr. Wagner, who currently manages the Morses Pond program, about the feasibility and value of such a study for the Town's ponds. He is aware of several qualified firms who regularly assess water quality and develop management plans like the one being proposed. He thought that due to the great success they have had at Morses Pond and the threats to water quality town-wide, developing a comprehensive plan for all of the ponds is sound. Finally, he confirmed that the projected budget was reasonable to properly assess the 8 ponds outlined in the proposal. His recommendations for the technical aspect of the pond analysis are as follows:

- Initial testing would involve collection of a minimum of 3 water quality samples per storm event (one collected before rain, one during the storm, and one afterwards).
- Data collected from 3 different storm events for each pond would provide a preliminary assessment of the local water quality.
- Once the results are analyzed, creating a baseline for current conditions, the plan would then prioritize future management actions, including dredging, installation of bio-retention facilities or rain gardens, and steps for watershed education.

The major goals of the Pond Management Plan would include the following components:*

Water Quality: Ensure water quality meets minimum standards
Recreation: Enhance active and passive recreational opportunities
Flood Control: Establish on-going policy measures to achieve storm and surface water management
Environment and Wildlife Protection: Protect wildlife (fish, birds, etc.) and wildlife habitat, both within the pond and around them

Control or Elimination of Invasive Plants and Aquatic Weeds: Target those weeds that impede recreational activities and/or endanger the health of the Pond, leading to eutrophication
Community Involvement: Increase educational efforts to reduce the use of fertilizers and harmful practices within the watershed

The problems of reduced water clarity and dense rooted plant growths are viewed as impediments to a majority of goals. More specifically:

- The influx of suspended solids or re-suspension of solids settled previously in the ponds reduces water clarity and adversely impacts water quality.
- Filling of town ponds has the potential to transform them into emergent wetlands.
- The influx and potential internal recycling of nutrients promotes algal growths (mats or blooms) that reduce water clarity and adversely impact water quality.
- Growths of introduced (and in some cases native) plant species are often too dense to allow safe recreation and are expected to impair habitat for many desirable species.

Options for managing sediment, nutrients, algae and rooted plants are available, but the optimal combination of techniques and level of application is uncertain. Beyond effectiveness in addressing each targeted problem, the success of many management approaches hinges on impacts to non-target uses of the ponds, regulatory constraints, cost and public perception. This plan will define these aspects of possible management options and make short and long term recommendations for implementation.

*Adapted from Morses Pond Request for Proposal

DPW Project Support

The NRC Director met with Dave Hickey, Doug Stewart (Engineering) and Mike Quinn (Park and Tree) from the Public Works Department to discuss the comprehensive plan's value, technical requirements and schedule. Public Works staff noted a few instances (Reed's Pond and Duck Pond) where despite more recent in-pond water quality control measures, aggressive dredging schedules, and overall improvements in erosion control, sedimentation continues to degrade the ponds. Furthermore, in some cases (Abbott pond), the ponds have not been evaluated in up to 30 years. From the DPW's perspective, Abbott's Pond, Duck Pond, Longfellow Pond and all of Morses Pond outside the North Basin may require more immediate attention. Reeds Pond and Duck Pond are critical links to other Town Open Space resources as they feed into Morses pond and Fuller Brook respectively, and ongoing preservation of those ponds will help ensure the success of the Morses management plan and Fuller Brook Park project. Certain ponds have limited public access and consequently will be difficult to dredge, requiring alternative water quality improvement methods.

Finally, from a financial standpoint, it is very likely that any future grant requests to improve water quality and watershed health such as the 319 Nonpoint Source Competitive Grants Program (used to fund part of Fuller Brook), will require an updated management plan for eligibility. There may be more cost-effective methods to improve water quality than dredging once the ponds have degraded to a critical point, but even if they must be dredged, having a strategy in place will allow the Town to properly plan to save these valuable open spaces using the best management practices available. With the permitting and design process sometimes taking up to 3 or 4 years, it is important to have the priorities lined up in advance. This study would provide a comprehensive baseline from which the Town can be proactive, not reactive, in preserving local water quality and storm water management services and rich habitat that the ponds provide. An email from the DPW with supplemental materials will be forthcoming.